

SPORT AEROBATIC CLUB
OF
SOUTH AFRICA

REGULATIONS/MANUAL OF PROCEDURE
FOR THE CONDUCT
OF
AEROBATIC CONTESTS

Prepared by John Gaillard
aeroair@iafrica.com
082 553 2769

SPORT AEROBATIC CLUB OF SOUTH AFRICA (SAC)
REGULATIONS/MANUAL OF PROCEDURE
FOR THE CONDUCT OF AEROBATIC CONTESTS

INTRODUCTION

It is the intention of the Sport Aerobatic Club (SAC) to run all contests to the latest CIVA Regulations as far as possible. However, some of the CIVA Regulations are simply not appropriate to local contests, in general terms the CIVA Regulations will apply, unless there is a specific local regulation contained in this document. In these instances the local rule will automatically override the CIVA Regulation.

Should the Contest be an FAI approved Aerobatic Competition, the CIVA Regulations Section 6, Part 1, must be strictly adhered to, the Contest must also be approved by SASCO.

In the CIVA Regulations reference is made to the International Jury, for local purposes such decisions which would be referred to an International Jury, will be referred to Chief Judge & Contest Director.

All figures referred to in these Regulations are as per FAI Aresti Aerobatic Catalogue as currently in use by CIVA.

It is up to each competitor and official to ensure that they are familiar with the latest CIVA Regulations and FAI Aresti Aerobatic Catalogue.

The following bodies are referred to in these regulations in the abbreviated form:-

- a) AeCSA – Aero Club of South Africa
- b) CIVA – International Aerobatics Commission (part of the FAI)
- c) FAI – Federation Aeronautique Internationale
- d) RAASA – Recreational Aviation Administration South Africa
- e) SAC – Sport Aerobatic Club of South Africa
- f) SACAA – South African Civil Aviation Authority

1. GENERAL REGULATIONS**1.1 Contest Categories**

Contests will consist of one or more of the following categories: -

- Classic
- RV Aircraft
- Glider
- Sportsman/Light Sport Aircraft (LSA)

- Intermediate/Yak52
- Advanced
- Unlimited

In addition, Graduate classification flights may take place and a contest category established, with awards as appropriate, these form part of the overall SAC training programme for an Aerobatic Rating issued by RAASA on behalf of SAC.

1.2 Contest Approvals

- 1.2.1 All Contests will require the sanction of the AeCSA & RAASA. *In the case of an International event the approval of the FAI & CIVA will also be required, as well as SASCO.*
- 1.2.2 SAC will establish the following:
 - 1.2.2.1 Venue of Competition
 - 1.2.2.2 Date of Competition
 - 1.2.2.3 Entry Fee
 - 1.2.2.4 Air Space waivers via RAASA

1.3 Contest Entries

National Championship Awards will only be made to pilots permanently based in South Africa; additional awards will be given to visiting pilots, who should be encouraged to compete at our contests.

The title National Aerobatic Champion will be established from the Unlimited Class or the Advanced Class if there is no valid Unlimited Class (three entrants).

Where there are less than three competitors in a category, a category champion cannot be established. In these circumstances an overall contest champion may be established by allowing all entrants to fly in their appropriate categories, with a contest champion being established on a best percentage score basis. Champions may still be established in those categories with multiple entrants, in addition to an overall contest champion. This provision does not apply to the National Championships, where awards will be given strictly by categories with multiple entries only.

Pilots, who are current in a category according to their aerobatic rating status, should not normally be allowed to enter a lower category, unless exceptional circumstances prevail, such as the unavailability of a suitable aircraft to fly in the Advanced or Unlimited categories. Such entries should be considered prior to the acceptance of paperwork by both the Contest Director & Chief Judge, who will have the right to impose a percentage handicap to the maximum of 15% for such entries.

1.4 Contest Officials

SAC will appoint the following Officials:-

- Registrar/Scorer
- Contest Director
- Chief Judge
- Judges
- Starter
- Air Traffic Advisory Officer (where applicable)

1.4.1 Registrar/ Scorer

- a) Drawing up of supplementary rules
- b) Distribution of entry forms & supplementary rules
- c) Determining closing date for entries & paperwork
- d) Receiving entries on the day of the Contest
- e) Issuing paperwork to Judges as required, including flight order
- f) Determining flight order
- g) Receiving score sheets from the Judges
- h) Calculating Contest Scores
- i) Checking that entrants have a valid pilots licence, aerobatic rating valid for the class entered, valid aircraft documentation, valid insurance cover, current parachute packing slip & SAC Membership
- j) Bringing to the attention of the Contest Director & Chief Judge any entrant not compliant with i) above

1.4.2 Contest Director

Safety will at all times be the primary consideration of the Contest Director. The Contest Director is in effect the General Manager for the event, specific areas of responsibility are as follows:-

- a) Conduct the Contest in accordance with SAC, CIVA, RAASA & AeCSA Regulations
- b) Appoint Contest Officials not already covered by SAC
- c) Act as the Safety Officer on behalf of SAC, RAASA & AeCSA
- d) Marking of the Aerobatic Box
- e) Coordination with airfield, SACAA & RAASA Officials as required
- f) Ensuring SACAA Regulations are adhered to
- g) Withdrawing a contestant for safety reasons or failure to adhere to Contest Regulations
- h) Crowd Control
- i) Ensuring an Air Traffic Advisory service is in place to advise air traffic in the vicinity of the airfield
- j) Designation of landing & take-off procedures
- k) Designation of parking areas for competing aircraft

- l) Provision of emergency services including paramedics
- m) Receiving protests
- n) Posting scores
- o) Chairman of the Technical Commission
- p) Chairman of Protest Board
- q) General site logistics
- r) Arranging catering for officials, competitors & guests
- s) Ensuring Judges requirements have been catered for
- t) Ensuring efficient radio communication between officials
- u) Ensuring a suitable fuel supply is present
- v) Verifying that the insurance for liability is in order prior to the contest

For International events in addition to the above CIVA Regulations Section 6, Part 1 will be strictly adhered to and monitored by the FAI approved and CIVA appointed International Jury.

1.4.3 Chief Judge

Safety at all times will be the primary consideration of the Chief Judge, who controls the contest flying in general and more specifically:-

- a) Manages the Judging line
- b) Acts as the Safety Officer for flying operations within the aerobatic performance zone
- c) Performs the duties of a regular Judge as required
- d) Determines in conjunction with the Contest Director, that weather conditions are within limits as per the CIVA Regulations
- e) Determines direction of flight
- f) Conducts the Pilot briefing
- g) May withdraw a competitor for reasons of safety
- h) May terminate or interrupt a contest flight for reasons of safety
- i) May exclude any person from a contest for un-sporting behaviour
- j) Conducts the Judges briefing
- k) Determines the flight order of classes
- l) Interprets CIVA, SAC & RAASA rules as required
- m) Member of the Technical Commission
- n) Member of the Protest Board
- o) May exclude a competitor who violates the traffic pattern, has executed unscheduled aerobatic manoeuvres, or operated an aircraft in unsafe manner

For International Events the Chief Judge will be appointed by CIVA.

1.4.4 Judges

All Judges will operate under the direct supervision of the Chief Judge and will be responsible for all aspects of the grading of aerobatic flights in accordance to CIVA Regulations. Judges fall into four categories as follows:

- a) Senior Judge – who attained International status and is included on the list of International Judges maintained by CIVA
- b) Judge – A person familiar with CIVA judging criteria & the FAI Aresti Catalogue, capable of checking an unlimited free sequence, who has officiated in at least six aerobatic competitions as Trainee Judge including the Nationals
- c) Trainee Judge – A judge familiar with CIVA judging criteria & the FAI Aresti Catalogue, capable of checking an unlimited free sequence, who has officiated in less than six aerobatic competitions. It is a requirement that the Trainee Judge has acted as an assistant judge in at least four contests.
- d) Pilots - with at least a confirmed Sportsman Aerobatic Rating, as required in the event of a shortage of judges, pilots may be assigned to the judging line by the Contest Director.

For International Events the Judges will be appointed by CIVA

1.4.5 Assistant Judges

Assistant Judges are appointed on an ad-hoc basis and will work under the supervision of the Judge they have been assigned to. Competing pilots may be assigned to the judging line by the Contest Director to assist in categories other than which they are competing.

For International Events the Assistant Judges will be approved by CIVA.

1.4.6 Starter

The starter is responsible to the Contest Director and will liaise closely with the Chief Judge, he specifically is responsible for the following:-

- a) The orderly and prompt release of competition flights
- b) Liaison with the Chief Judge for any change in flight order

1.4.7 Air Traffic Advisory Officer

This official is responsible for monitoring air field and approach frequencies, to advise incoming traffic of the status of the aerobatic operations at the contest site. This is an essential part of the safety operation of a contest. The designated Officer must fulfil the requirements of CARS with regards to air frequency operations. Please note that this is an advisory operation and not an air traffic control function, incoming pilots can be advised of aerobatic operations and be advised to remain clear and similarly can be advised of the prevailing traffic pattern at the airfield, at no time can clearance ever be given to take-off or land. In the event of a situation where incoming traffic does not acknowledge information or has chosen to ignore the advice given, the Chief Judge must be informed immediately and the competition flight terminated or interrupted as appropriate. The designated person must be the holder of a Radio Licence in terms of ICASA Regulations.

For International Events the aerobatic venue shall be controlled by ATNS, with the safety frequency monitored and operated by the Chief Judge at the event, as laid out in CIVA Regulations Section 6, Part 1

1.5 Contest Bodies

SAC will appoint the following Contest Bodies:-

1.5.1 Protest Board

The Protest Board shall consist of the Contest Director, who shall preside over the Board, the Chief Judge and any Officials as deemed appropriate to consider the protest at hand. The Board is responsible for the prompt and orderly conduct of any hearing following a protest, rendering it's decisions and notifications to any parties concerned in writing.

1.5.2 Technical Commission

The Technical Commission will be responsible to the Contest Director and may consist of any of the following:-

- An aircraft Maintenance Engineer
- Any other person deemed appropriate by the Contest Director

The duties of the Technical Commission are specified in CIVA Regulations Section 6 – paragraph 1.4.4.

2. Operating Regulations

2.1 (a) – Pilot Qualifications Local

- a) Minimum pilot qualification for piston engine aircraft (excluding LSA) shall be a PPL and an Aerobatic Rating appropriate to the class entered
- b) Minimum pilot qualification for LSA Aircraft shall be a National Pilots Licence and an Aerobatic Rating appropriate to the class entered
- c) Minimum pilot qualification for gliders shall be a Gliding Pilots Licence and an Aerobatic Rating
- d) Competitors are required to have practised the compulsory and free sequences to be flown, within the last thirty days preceding the contest and be prepared to sign a declaration to that effect. The penalty for making a false declaration will be automatic exclusion from the contest and suspension of the competitor's aerobatic rating, pending a disciplinary hearing.
- e) All competitors must be fully converted to fly the type of aircraft to be used in the competition in the terms of CARS.

2.1 (b) – Pilot Qualifications International

a) Shall be in accordance with CIVA Regulations Section 6, Part 1

2.2 Pilot Briefing

This briefing is compulsory for all competitors and is generally not open to the public, the contest will be deemed to have commenced once the briefing has taken place. A briefing will also take place at the commencement of each day's flying. The briefing will be conducted jointly by The Contest Director & Chief Judge and shall include the following:-

- a) Introduction of Contest Officials
- b) Weather forecast and winds aloft
- c) Official wind direction
- d) Description of the performance zone
- e) Holding Areas
- f) Minimum altitudes
- g) Recall procedures & safety measures
- h) Radio frequencies
- i) General contest arrangements

2.3 Judges Briefing

This briefing will be conducted before the first competition flight commences

2.4 Recall Procedure

The primary recall will be by means of radio from the Chief Judge on the designated radio frequency. Failure to communicate with the Chief Judge at the commencement of the flight will require the pilot to break off the contest flight and land in an appropriate manner if radio failure has occurred. Failure to adhere to this procedure will automatically result in the flight being disqualified from the Contest.

At any point in the flight should the Chief Judge call "Break – Break" the pilot is required to stop his sequence immediately and come to level upright flight and await further information from the Chief Judge.

As an emergency recall procedure any flight must be terminated, if a smoke flare is seen to be discharged from the Judges Position or flight line.

In the case of an International Event, RT procedure is strictly defined in CIVA Regulations section 6, Part 1, this is restricted to a radio check with the Chief Judge giving the competitors reference number, in the event of an emergency the Chief Judge is restricted to calling "Break, Break, Break" and as required "Land, Land, Land" no other communication is allowed by the CIVA Regulations. The Contest Director will ensure that all competitors are capable of understanding the restricted RT messages before flying commences, no other language proficiency is required.

2.6 International Events restriction of use of airspace

International Competitors will at all times be restricted to the designated performance zone as defined in CIVA Regulations Section 6, part 1 and within a reasonable distance to allow for take-off, landing and approach to the performance zone, in no case will this exceed 1 NM as designated in Chapter 14 of the approved ARO for Aerobatics, unless they are in possession of a SACAA approved licence validation allowing cross country flights.

2.6 Safety Pilots

Safety pilots will only be allowed in exceptional circumstances and will automatically render the pilot "Hors-Concours" (H/C) for the contest, scores however may be posted and published. H/C pilots may with the agreement of the Contest Director be included in the Graduate Class, when such a class has been declared for a specific contest.

2.7 Height Limitations

Height limitations will follow CIVA Regulations for all International classes, with the following exception, Advanced & Unlimited Classes flown at altitude, (defined as 3,500’ above sea level); will automatically be entitled to a free break in all competition sequences & Intermediate/Yak52 will be 700’ with a disqualification altitude of 500’.

The height limitations for those classes not recognised by CIVA will be as follows:-

- a) Classic - Minimum altitude 1000’ Disqualification altitude 700’
- b) Sportsman - “ “ “ “ “ “
- c) RV Aircraft - “ “ “ “ “ “
- d) Light Sport Aircraft - “ “ “ “ “ “

Please note that the Graduate Training Scheme will also follow the above height restrictions

2.8 Unknown Programmes

Unknown programmes, for Intermediate/Yak52, Advanced & Unlimited classes shall follow the CIVA Regulations with regards to content, with the exception of the procedure for the drawing of the figures, which will be as follows:

- a) Unlimited
Competitors will draw lots to determine the selection of unknown figures, if there are less than nine entrants; competitors will select multiple figures in the order established until nine figures have been established.
- b) Advanced & Intermediate/Yak52
Competitors will draw lots to determine the selection of unknown figures, if there are less than twelve entrants; competitors will select multiple figures in the order established until twelve figures have been established.
- c) Sportsman Class/LSA, Classic & RV Aircraft
Competitors will fly a sequence prepared by the SAC Committee.

Note: At certain contests where time is restricted pre-prepared sequences will be distributed at the pilot briefing.

2.9 Entries by Foreign Pilots & Pilots with previous contest history and not current

The entry of foreign pilots should always be encouraged, they will require becoming honorary members of SAC and RAASA can issue an aerobatic rating on the basis of their known experience, entry to an appropriate class can be established by the Contest Director and Chief Judge.

Local pilots with previous aerobatic experience will in all cases require being in possession of an aerobatic rating issued by RAASA. Should they require entering a contest at a higher level than their current rating allows, their previous history at SAC contests will be taken into account and then as required the Q Programme of the class entered may be required to be flown before a Board of Judges

2.10 Protests

In general terms protests must be submitted in writing to the Contest Director as set out in the CIVA Regulations and FAI Sporting Code, specifically the following should apply:

- a) The protest should set out which regulation is involved and paragraph references should be included applicable to SAC, CIVA or FAI Regulations.
- b) A deposit of R100 is required; this will be returned in the event of the protest being upheld, but forfeited to SAC funds if the protest is denied.

2.11 Aircraft Types

Four types of aircraft are currently recognised by SAC

- a) Piston Engined Aircraft
- b) Light Sport Aircraft (LSA) as defined in RAASA Regulations
- c) Gliders
- d) Jet & Jet Turbine aircraft

In all categories the manufacturer or designer (in the case of home built aircraft) must have approved the aircraft for aerobatic manoeuvres, the limitations of which must be clearly set out in the aircraft operator's handbook.

3.1. Programmes to be flown at Contests & Championships

In general terms the CIVA Regulations will apply to the Unlimited, Advanced & Intermediate/Yak52 classes, the remaining classes will be as follows:

- a) Sportsman/LSA, Classic & RV Aircraft
The minimum programmes that can be flown at the National Championship to declare a class Champion is two.
- b) Light Sport Aircraft will operate within the Sportsman Class, where three such aircraft are entered into a contest, a separate Sub-Category may be established.
- c) Graduate may be flown at a contest as part of the SAC aerobatic rating training scheme, Graduate's may only fly at the Nationals to warm-up the Judges, scores may be counted in the award of their ratings in terms of the SAC training scheme.

3.2. Warm-up figures

Only two CIVA approved warm-up figures will be allowed in all categories, the CIVA Regulations with regards to Free Unknowns are not applicable in local contests.

4. Summary or Requirements per Class

4.1 Unlimited

Programmes

- | | | |
|----------------------------|---|-------------------------|
| • The Free-Known Programme | – | As per CIVA Free-Known |
| • Unknown Programmes | – | As per CIVA Regulations |
| • The Final Free Style | – | As per CIVA Regulations |

Height Limitations

Lower – 100 m	-	(330')
Upper – 1000 m	-	(3, 280')

Disqualification

Lower - 50 m	-	(164')
--------------	---	--------

Penalties

Figures Flown after 15 minutes will not be scored

Lower Height Limit	-	250 points
Upper Height Limit	-	50 points
Programme Interruption	-	150 points
Training Figure Violation	-	30 points
Box Infringement	-	30 points
Starting Slot Infringement	-	250 points

4.2 Advanced

Programmes

- The Free Known Programme – As per CIVA Free Known
- The Unknown Programmes – As per CIVA Regulations

Height Limitations

- Lower – 200 m - (660')
- Upper – 1,100 m - (3, 609')

Disqualification

- Lower - 100 m - (330')

Penalties

Figures Flown after 15 minutes will not be scored

- Lower Height Limit - 200 points
- Upper Height Limit - 30 points
- Programme Interruption - 100 points
- Training Figure Violation - 30 points
- Box Infringement - 20 points
- Starting Slot Infringement - 200 points

4.3 Intermediate/Yak52

Programmes

- The Free Known Programme – As per CIVA Free Known
- The Unknown Programmes – As per CIVA Regulations

Height Limitations

- Lower – 700' (CIVA 200m) - (700')
- Upper – 3,700' (CIVA 1,200 m) - (3, 700')

Disqualification

- Lower – 500' (CIVA 100 m) - (500')

Penalties

Figures Flown after 15 minutes will not be scored

- Lower Height Limit - 200 points
- Upper Height Limit - 30 points
- Programme Interruption - 50 points
- Training Figure Violation - 30 points
- Box Infringement - 20 points
- Starting Slot Infringement - 200 points

Free Programme Versatility

- Maximum figures - 12
- Maximum Total K - 200
- Family 1 - Not required
- Family 2 - At least one figure from either
2.1.2. to 2.1.3. or
2.2.2. to 2.2.6. or
2.3.2. to 2.3.5. or
2.4.2. to 2.4.8.
- Family 5 - At least one figure
- Family 6 - Not required
- Family 7 - At least one figure
- Family 8 - At least one figure
- Family 9.1 to 9.8 - At least one figure from each sub-family
- Family 9.9 to 9.10 - At least one figure
- Family 9.11 & 9.12 - At least one figure from either
- Opposite Rolls - At least one with elements from Families 9.1 to 9.10

4.4 Sportsman/LSA/Classic/RV Aircraft

Programmes

- | | | |
|--------------------------|---|------------------------|
| • The Known Compulsory | – | As per SAC Sequence |
| • The Free Programme | – | As per shown below |
| • The Unknown Programmes | – | As per SAC Regulations |

Height Limitations

- | | | |
|-------|---|-------|
| Lower | – | 1000' |
| Upper | – | 4000' |

Disqualification

- | | | |
|-------|---|------|
| Lower | - | 700' |
|-------|---|------|

Penalties

Figures Flown after 15 minutes will not be scored

- | | | |
|----------------------------|---|------------|
| Lower Height Limit | - | 100 points |
| Upper Height Limit | - | 30 points |
| Programme Interruption | - | 50 points |
| Training Figure Violation | - | 30 points |
| Box Infringement | - | 15 points |
| Starting Slot Infringement | - | 100 points |

Free Programme Versatility (compulsory figures)

- | | | |
|--------------------------------|---|---|
| Maximum figures | - | Not Applicable |
| Maximum Total K | - | 120 |
| No Individual figure below 10k | | |
| Family 1 | - | Not required |
| Family 2 | - | Not required |
| Family 5 | - | At least one figure (Not applicable to Classic) |
| Family 6 | - | Not required |
| Family 7 | - | At least one figure from family 7 |
| Family 8 | - | At least one figure |
| Family 9.1 to 9.4 | - | At least one figure from each sub-family |
| Family 9.9 to 9.10 | - | Not required |
| Family 9.11 | - | Only one figure |

4.5 Gliders

- The Known Compulsory – As per SAC Programme
- The Free Programme – As per SAC Regulations
- The Unknown Programmes – As per CIVA Regulations

Contest Formats

When a contest extends over two days or more, all programmes shall be flown, i.e.

- a) Free Known Compulsory/Q Programme
- b) Unknown Programmes
- c) Final Freestyle (Unlimited)

Note: When Graduate flights take place at a Contest the known programme will be flown multiple times as appropriate, for classification purposes either the average of all flights will be taken or if this has not achieved 70%, then the last flight flown will count.

For one day contests either the Known Compulsory/Q Programme or Free Programme will be flown and an Unknown Programme. The first Programme flown should be rotated between the Known Compulsory/Q Programme and Free programme at each subsequent one day contest.

5. Video

At the National Championships it is essential that a video recording is made of all flights in the Advanced & Unlimited categories and it is recommended that this also be applicable to all categories.

Wherever possible it is recommended that video should be used at all competitions.

6. Line Judges

Wherever possible line judges should be utilised, but these should be mandatory for the National Championships, guidelines for line Judges are found in CIVA Regulation 2.2